

Pre-Amp EDFA - Model OTEB-CO-P Series

Features and Benefits

Compact high performance 1RU 19" Pre-Amp EDFA

Designed for the optical amplification of very low light signals.

Excellent low-noise performance at very high optical gains.

Optical Output Power is usually not important for these types of amplifiers. They are optimized for Gain and Noise Figure. A chart is provided that shows typical performance.

1540nm to 1560nm operating wavelength range

Typically used at the receive end of a system.

Standard Universal 90-265 Volt AC power supply.

48 Volt DC power supply (30-72 Volts DC) option is available.

Optional SNMP monitoring.

LED indicators and LCD display for easy setup and maintenance.

SC/APC or FC/APC optical connector can be located on the front or rear of the unit.



The Olson Technology Model OTEB-CO-P Series Pre-Amp EDFA (Erbium-Doped Fiber Amplifier) incorporates reliable optical output drive circuitry, and laser TEC (Thermo-Electric Cooler) to provide a highly reliable Optical Amplifier. Built-in microprocessor software allows the user to monitor a number of system parameters, including: laser status, systems alarm, network management, and TEC circuit operation. If a critical problem is detected, the power supply for the pump laser will shut down automatically, a red LED indicator will light, and the front panel display will show the nature of the problem. Optional SNMP network management is available through the RJ45 interface. The EDFA is housed in a 1RU 19" rack mount configuration with an integrated AC or DC power supply. The pump laser is controlled by a front panel pushbutton switch and positive indication if the pump laser is on or off by a status LED.

This rugged Pre-Amp EDFA design utilizes highly reliable pump lasers for maximum reliability. The unit accepts a very wide optical input range from -35dBm to +3dBm and provides optical gain from 35dB to 45dB depending on the specific model. The Model OTEB-CO-P Series is the perfect companion to the Olson *SatellitePlus* family of L-Band transport products. The OTEB-CO-P is also an excellent choice for use with digital signals. When operated at low light levels, the output will not be saturated. At low optical input levels, the Noise Figure (NF) of the OTEB-CO-P EDFA gets very close to the theoretical minimum NF of 3.0dB.

The OTEB-CO-P is also designed to operate seamlessly with optical transmitters, receivers and nodes from most leading manufacturers.



Pre-Amp Optical Amplifier

System Specifications

Optical Characteristics (with SM 9/125µm Fiber)

	Min	Typ	Max	Units
Output Pwr (P-35 @-30dBm in) _{1,2}	+5			dBm
Output Pwr (P-40 @-30dBm in) _{1,2}	+10			dBm
Output Pwr (P-45 @-30dBm in) _{1,2}	+15			dBm
Optical Input Power	-35		+3	dBm
Wavelength	1540		1560	nm
Noise Figure (-30dBm in)	3.5		4.0	dB
Noise Figure (-10dBm in)	4.0		4.5	dB
Pump Power Leakage			-30	dBm
Polarization Dependent Loss			0.5	dB
Input/Output Isolation	30			dB
Optical Return Loss	55			dB
Optical Connector	SC/APC or FC/APC			
SNMP Network Interface ₃	Rj45			
Communication Interface	RS-232			

Notes:

- 1) See Figure 1 for Typical Performance.
- 2) Output Power display may be muted due to the high ASE output level.
- 3) SNMP is optional at the time of ordering

Electrical and Environmental Characteristics

	Min	Typ	Max	Units
AC Power Supply Voltage	90		265	V _{AC}
DC Power Supply Voltage	30	48	72	V _{DC}
Power Consumption		15	25	W
Operating Temp. Range	-5		+65	°C
Storage Temp. Range	-40		+80	°C
Humidity (Non condensing)	5		95	%

Physical Characteristics

	Min	Typ	Max	Units
Weight		12		lb.
		5.5		kg
Dimensions (W x L x H)	19	14.5	1.75	in.
	483	368	44	mm

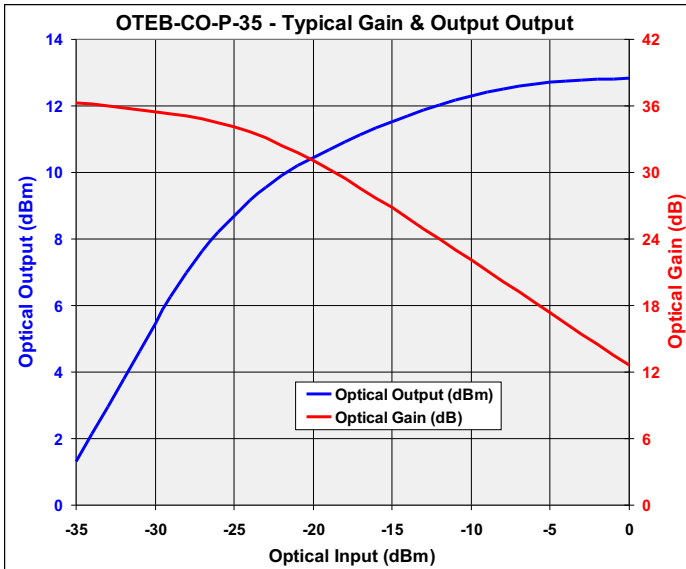


Figure 1 - OTEB-CO-P-35 - Typical Gain and Optical Output Power

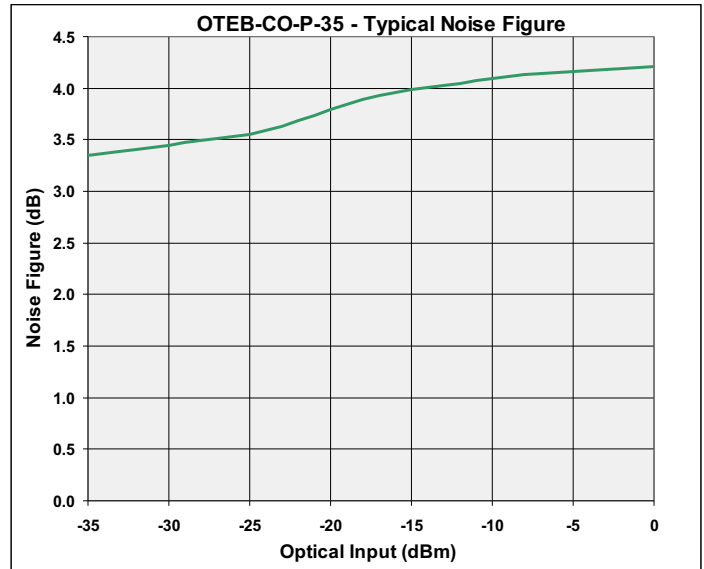


Figure 2 - OTEB-CO-P-35 - Typical Noise Figure Performance

Ordering Information

Model OTEB-CO-P-35-yy-pp-z/S Pre-Amp EDFA, Single Output, 35dB Gain at -30dBm Input
 Model OTEB-CO-P-40-yy-pp-z/S Pre-Amp EDFA, Single Output, 40dB Gain at -30dBm Input
 Model OTEB-CO-P-45-yy-pp-z/S Pre-Amp EDFA, Single Output, 45dB Gain at -30dBm Input

Where

yy Optical connector type; SA = SC/APC (Standard), FA = FC/APC (Optional)
 pp Power; AC = AC power (Universal AC), DC = DC power (48V_{DC})
 z Optical Connector Position (Omit = Back, F = Front)
 /S Designates unit with SNMP. Omit for no SNMP